Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

NRG -Middletown Power LLC
COMPLETION OF MILESTONE
REMEDY SELECTION (CA 400)

To: Juan A. Pérez, Office of Site Remediation and Restoration, EPA- New England
From: David Ringquist, Gene Shteynberg, Remediation division, Connecticut DEEP DR
Date: December 5, 2012 G.S

Re: NRG -Middletown Power LLC
EPA I.D. No. CTD000845230
PO Box 1001, 1866 River Road, Middletown, CT 06457

NRG -Middletown Power LLC located at 1866 River Road, Middletown, Connecticut has achieved the "Remedy Selection" (CA400) Corrective Action milestone.

Site Background Information

The Middletown generating station was constructed in 1953 and began operation in 1954. The station utilized coal for combustion from 1954 to 1968. In 1968, the fuel to operate the boilers was converted from coal to No. 6 fuel oil. The station is situated on the 55-acre parcel owned by NRG. Most of the property surrounding the main operational units is undeveloped and unused by facility operations. The Connecticut River abuts the property to the north. The river at the site is classified as SC/CB. Groundwater at the site is classified as GB. Groundwater at the site is from 10 to 37 feet below the grade. Groundwater flow is generally north toward the Connecticut River.

Site Environmental Conditions

When station operated as a coal-fired facility, large amounts of coal were stored in open piles and handled on the west portion of the property. Coal ash was deposited in two former settling basins SB 1 and SB 2 in the eastern portion of the property and in the former ash disposal area between SB1 and the former RCRA clean-closed equalization basin. The coal and coal ash layer in some locations is up to 25 feet thick. Contaminants of concern in the soil include metals (arsenic, beryllium, nickel, selenium, thallium), poly-nuclear aromatic hydrocarbons (PAH), petroleum hydrocarbons (total and extractable-TPH and ETPH) and volatile organic compounds (VOCs). The groundwater impact is limited to metals (arsenic, selenium) and PAH. Groundwater results from 20 on-site groundwater monitoring wells show compliance with the Connecticut Remediation Standard Regulations (RSR), except for slight exceedences of the Surface Water Protection Criteria(SWPC) for arsenic and selenium during one event.

Previous Remedial Activities

In 2009-2011, the following activities were completed under a separate remedial action plan (RAP) submitted in 2009:

1. Excavation of 130 tons of PAH-impacted soil at the area of concern #2 (AOC-2) which consists of the internal combustion unit and two aboveground storage tanks (AST).

2. Excavation and on-site disposal of 25,000 cubic yards of impacted soil during construction activities associated with a Repowering Project at the facility.
3. Closure of the former RCRA container storage area (AOC-14).

Proposed Site-wide Remedial Activities in RAP.
The following activities are proposed under the RAP dated October 11, 2011:

1. Use of Engineered Controls is proposed at:
   - AOC-1, former Settling Basins 1 and 2;
   - AOC-8, Fuel Oil Additive ASTs;
   - AOC-13, Miscellaneous Residual Coal and Coal Ash Area;
   - AOC-15, Former Closed RCRA Basin-

   to limit potential exposure to soil/ash that exhibits concentrations of metals, PAH and TPH above the Industrial/Commercial Direct Exposure Criteria (I/C DEC). In addition, the proposed controls include a low permeability cover to address impact of soil contaminated in excess of the GB Pollutant Mobility Criteria (PMC).
   The NRG's Application for an Engineered Control Variance was approved by DEEP on November 21, 2011.
2. Submittal of a request for approval of the Environmentally Isolated Soil Exemption to address polluted soils at AOC-8. The Request to use an existing permanent structure located at AOC-8 to render the polluted soil beneath this structure environmentally isolated, as defined in Section 22a-133k-1(a)(15) of the RSRs, was approved by DEEP on October 23, 2012.
3. Submittal of a notice for Inaccessible Soil Exemption to address polluted soils at the AOC-1 and AOC-13. The Notice to use several existing permanent structures located at the AOC-1 and AOC-13 to render the polluted soil beneath this structure inaccessible, as defined in Section 22a-133k-1(a)(28) of the RSRs, was accepted by DEEP on October 23, 2012.
4. Environmental Land Use Restrictions (ELURs) will be established in several areas of the site to restrict the site to industrial use only, and to prohibit the disturbance of structures or engineered controls being used to render soil inaccessible or environmentally isolated.
5. Groundwater monitoring will be conducted as part of the AOC-1 Engineered Control. The monitoring will include the implementation of the groundwater program to insure compliance with the RSR Surface Water Protection Criteria.

Ecological Risk Assessment
An initial ecological risk assessment (ERA) report was submitted in February 2009 and the latest revision of the ERA dated June 20, 2012 was submitted on June 27, 2012. The report and its revisions and supplemental information were evaluated by EPA and DEEP. The latest revision of the ERA was approved on October 26, 2012. In general, the completed and proposed remedial actions described above are designed to prevent potential migration of contaminants of potential ecological concern (COPECs) in soil and groundwater to ecological receptors in order to eliminate or reduce ecological risk.